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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,498	04/12/2004	Rajeev Sharma	AI-0018-DFM	3581

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EXAMINER	
VANCHY JR, MICHAEL J	

ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
01/21/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/822,498	SHARMA ET AL.	
	Examiner	Art Unit	
	MICHAEL VANCHY JR	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6,7,9-11,16,17,20,21 and 23-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6,7,9-11,16,17,20,21 and 23-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 31, 2008 has been entered.

Response to Arguments

1. Applicant's arguments with respect to claims 1, 6, 7, 9-11, 16, 17, 20, 21, and 23-25 have been considered but are moot in view of the new ground(s) of rejection.

2. Claims 2-5, 8, 12-15, 18, 19, 22, and 26-31 have been cancelled.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1, 6, 7, 9-11, 16, 20, 21, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohamed et al., US 6,925,438 B2, and further in view of "An affine coordinate based algorithm for reprojecting the human face for identification tasks," Kuntal Sengupta and Jun Ohya.

Regarding claim 1, Mohamed teaches a method for face modeling, comprising the steps of: (a) processing face detection and facial feature detection on capturing a plurality of images for a person with a single or a plurality of image capturing systems (col. 3, line 63 to col. 4, line 17), (b) processing said plurality of images to obtain demographic recognition of the person in the captured images, (c) choosing a face model specific to the demographic recognition of the person as an approximate face model (col. 6, line 60 to col. 7, line 9), and whereby the face modeling is followed by a view generation of the face using rendering tools (col. 2, lines 11-20). Mohamed does not explicitly teach using affine coordinate based mesh adjustment for said face modeling, however Sengupta teaches using affine coordinates for model creation (II. Affine Coordinates: Properties). It would be clear to one of ordinary skill in the art to modify Mohamed to include affine coordinate mesh adjustment as another way of creating the model (or avatar) for visual rendering, since affine coordinate modeling was a well known and accurate way for adjustment of three-dimensional models.

Regarding claim 6, Sengupta teaches wherein the method further comprises a step of using affine lines and their slope adjustment, which is proportional to depth of the point, for model estimation (Fig. 3, and II. Affine Coordinates: Properties, "Thus, for every possible...").

Regarding claim 7, Sengupta teaches wherein said face modeling further comprises a step of using said affine line properties without the need for calibrating the image capturing systems, whereby the image capturing systems include cameras (I. Introduction, the Examiner takes into account that there is no calibration needed since there is reprojection of the image using affine coordinates.).

Regarding claim 9, Sengupta teaches wherein the method further comprises a step of using the affine line properties for re-projecting a matched pair in two images to a third image, once four facial landmarks are located in all of the three images (II. Affine Coordinates: Properties, "The four points...".

Regarding claim 10, Sengupta teaches wherein the method further comprises a step of using a single view to crudely model the face and then use anthropometric measures for identification (Abstract, since the creation of the model is better performed with multiple views taken by a camera, it would be obvious to one of ordinary skill in the art that if one single view is taken that a crude model would be created instead of an accurate model.). Mohamed teaches a model based on gender and ethnicity (col. 6, line 60 to col. 7, line 9).

Regarding claim 11, Sengupta teaches wherein the method further comprises a step of using multiple views to model the face in the image based on the combination of the affine line properties and then use the anthropometric measures for identification purposes (Title and Abstract). Mohamed teaches a model based on gender and ethnicity (col. 6, line 60 to col. 7, line 9).

Regarding claim 16, see the rejection made to claim 1, for it addresses the method of this apparatus.

Regarding claim 20, see the rejection made to claim 6, for it addresses the method of this apparatus.

Regarding claim 21, see the rejection made to claim 7, for it addresses the method of this apparatus.

Regarding claim 23, see the rejection made to claim 9, for it addresses the method of this apparatus.

Regarding claim 24, see the rejection made to claim 10, for it addresses the method of this apparatus.

Regarding claim 25, see the rejection made to claim 11, for it addresses the method of this apparatus.

6. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mohamed et al., US 6,925,438 B2, "An affine coordinate based algorithm for reprojecting the human face for identification tasks," Kuntal Sengupta and Jun Ohya, and further in view of Marshall et al., 3,740,466.

Regarding claim 17, both Mohamed and Sengupta teach a system of capturing devices for taking images of the individual to create a three-dimensional representation. However both are also silent on using disparate cameras and different locations for image acquisition. Marshall teaches a surveillance system for capturing images of individuals using disparate cameras at different locations (Fig. 1, and col. 7, lines 25-

41). It would be clear to one of ordinary skill in the art at the time of the invention to modify the combination of Mohamed and Sengupta to include disparate cameras at different locations for image acquisition for creating of the three-dimensional model, since different locations gives more data for a more accurate three-dimensional model, and the ability to use disparate cameras allows the system to have flexibility for image capturing.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL VANCHY JR whose telephone number is (571)270-1193. The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on (571) 272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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